

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

**CORNELL UNIVERSITY, a nonprofit New
York corporation, and CORNELL RESEARCH
FOUNDATION, INC., a nonprofit New York
corporation,**

Plaintiffs,

-v-

01-CV-1974

**HEWLETT-PACKARD COMPANY, a
Delaware corporation,**

Defendant.

**HEWLETT-PACKARD COMPANY, a
Delaware corporation,**

Counterclaimant,

-v-

**CORNELL UNIVERSITY, a nonprofit New
York corporation, and CORNELL RESEARCH
FOUNDATION, INC., a nonprofit New York
corporation,**

Counterdefendants.

APPEARANCES:

Sidley Austin Brown & Wood
Bryan K. Anderson, Esq., of Counsel
David T. Miyamoto, Esq., of Counsel
Denise L. McKenzie, Esq., of Counsel
Edward G. Poplawski, Esq., of Counsel
Olivia M. Kim, Esq., of Counsel
Sandra S. Fujiyama, Esq., of Counsel
555 W. Fifth Street, 40th Floor
Los Angeles, California 90013

and

Cornell University, Office of Counsel
James J. Mingle, Esq., of Counsel
Nelson E. Roth, Esq., of Counsel
Valerie L. Cross, Esq., of Counsel
300 CCC Building, Garden Avenue
Ithaca, New York 14853
Attorneys for Plaintiffs/Counterdefendants

DLA Piper, Rudnick, Gray Cary US LLP
Erin P. Penning, Esq., of Counsel
John Allcock, Esq., of Counsel
Sean C. Cunningham, Esq., of Counsel
Arthur A. Wellman, Esq., of Counsel
Licia E. Vaughn, Esq., of Counsel
Stewart M. Brown, Esq., of Counsel
401 B Street, Suite 1700
San Diego, California 92101-4297

and

Harter, Secrest & Emery LP
Jerauld E. Brydges, Esq.
1600 Bausch and Lomb Plaza
Rochester, New York 14604-2711

and

Fish, Richardson Law Firm
Barry K. Shelton, Esq., of Counsel
111 Congress Avenue
Suite 810
Austin, Texas 78701
Attorneys for Defendant/Counterclaimant

Hon. Randall R. Rader, Circuit Judge, United States Court of Appeals for the Federal Circuit, sitting by designation:

ORDER

This court conducted an eight-day jury trial running May 19-30, 2008, to determine the validity and infringement of U.S. Patent No. 4,807,115 (the '115 patent). Finding the '115 patent valid and infringed, the jury awarded damages of \$184,044,048 to Cornell. The jury arrived at this award by applying a 0.8% royalty rate to a \$23,005,506,034 royalty base, which included earnings from the sale of many components of Hewlett-Packard's products that are not covered at all by the claimed invention. Hewlett-Packard then moved for judgment as a matter of law (JMOL) seeking to reduce this royalty base to include only Hewlett-Packard's earnings attributed to the infringing technology. In the alternative, Hewlett-Packard requested remittitur of the damages award. After complete briefing by both parties, the Court heard argument on July 30, 2008. Because the record shows that Cornell did not prove entitlement to the entire market value of Hewlett-Packard's CPU brick products, this court grants Hewlett-Packard's motion for JMOL, or in the alternative, for remittitur.

I.

The technology at issue has been described in great detail elsewhere (for example in the Markman and summary judgment orders), and that full description will not be repeated here. The '115 patent, "Instruction Issuing Mechanism For Processors With Multiple Functional Units" to Dr. Torng on February 21, 1989, claims technology that issues multiple and out-of-order computer processor instructions in a single machine clock cycle. This technique employs a dispatch stack and precedence count memory. By achieving multiple and out-of-order processing, this invention enhances the throughput of processors with multiple functional units.

As is apparent even from the title of his patent, Dr. Torng did not develop an entire computing system. Rather, he invented a method for instruction issuance within a computer processor. Indeed, the parties do not dispute that the '115 patent reads on just one component of the instruction reorder buffer (IRB), itself a part of a computer processor. And, of course, the processor is only a component of a larger computing system. In the anatomy of a Hewlett-Packard server, the processor is the smallest salable patent-practicing unit. These processors are a part of CPU modules that, when combined with a temperature controlling thermal solution, external cache memory, and a power converter, make up what Hewlett-Packard calls "CPU bricks." A set of CPU bricks is then incorporated into a cell board, and that cell board is finally inserted into a server, where it functions as the server's processing engine. To restate, however, the claimed invention is a small part of the IRB, which is a part of a

processor, which is part of a CPU module, which is part of a “brick,” which is itself only part of the larger server. For some general context, this server is larger than even very large home refrigerator units; the CPU “brick” is longer and thinner than the ordinary masonry brick; the IRB is a thin wafer device approximately two inches wide and three inches long. As noted earlier, the damages award uses as the royalty base the value of the entire CPU brick, not the invention or the IRB or even the processor.

Although the accused processors were the smallest salable units incorporating Dr. Torng’s invention, Hewlett-Packard’s primary business did not include à la carte processor sales. Trial Tr. vol. 6, 35:7-19, May 29, 2008. Rather, as indicated by the revenue data presented at trial, Hewlett-Packard primarily sold servers and workstations containing infringing processors. Id. Nevertheless, Hewlett-Packard sold more than 31,000 infringing processors à la carte during the damages period. Trial Tr. vol. 6, 33:13-17, May 29, 2008. Thus, the record supplied some evidence of sales data for processors.

Cornell originally sought damages on the revenue from Hewlett-Packard’s entire server and workstation systems. These servers and systems include vast amounts of technology beyond the infringing part of the processors. In anticipation that Cornell would assert entitlement to damages beyond the claimed invention, this court repeatedly advised before trial that it would scrutinize the damages proof. With this advance warning, this court expected Cornell to present well-documented economic evidence closely tied to the scope of the claimed invention. To this court’s surprise, when the trial commenced, Cornell had not revised its attempts to prove entitlement to damages far beyond the scope of the claimed invention. Because the claimed invention is “a component of a component within the processors used in Hewlett-Packard’s servers and workstations,” this court interrupted the trial to conduct a Daubert hearing to determine whether Cornell’s damages expert, Dr. Marion Stewart, had properly applied the entire market value rule or had improperly expanded the rule to claim damages far in excess of the contribution of the claimed invention to this market (and thus to gain more than “damages adequate to compensate for the infringement.”). Cornell Univ. v. Hewlett-Packard Co., No. 01-CV-1974, 2008 WL 2222189, at *2 (N.D.N.Y. May 27, 2008). In particular, Dr. Stewart sought to testify that the jury should compute damages using a royalty base encompassing Hewlett-Packard’s earnings from its sales revenue from its entire servers and workstations.

At that hearing, neither Cornell nor Dr. Stewart offered credible and sufficient economic proof that the patented invention drove demand for Hewlett-Packard's entire server and workstation market. In sum, Dr. Stewart did not supply credible and sufficient economic proof to support application of the entire market value rule. Rather Dr. Stewart tried to present evidence that would mislead the jury to award damages far in excess of their compensatory purpose. As this court noted during its inquiry, "[a]t best, the record shows that purchasers opt for Hewlett-Packard products because of their superior performance. Yet the patented invention is still merely one of several—what Dr. Stewart calls a 'handful of components'—in the Hewlett-Packard processor 'Performance Formula.'" Id. at *3. Moreover, "Cornell did not offer a single demand curve or attempt in any way to link consumer demand for servers and workstations to the claimed invention." Id. In light of these evidentiary shortcomings, this court found that "Dr. Stewart and Cornell have not drawn any connection between the market for servers and workstations and the patented invention." Id. at *4. Accordingly, the court excluded "Dr. Stewart's testimony that the entire market value of Hewlett-Packard's servers and workstations should be used as the royalty base." Id.

Upon that ruling, Cornell lacked evidence of damages. Instead of leaving Cornell without proof of damages, this court instead offered Cornell an opportunity to return the next day and offer testimony "on something less that takes into account to some degree, based on his expertise, the fact that the claimed invention is not the entire system but only a component of a component of that system." Trial Tr. vol. 5, 16:1-5, May 23, 2008. The boundaries of that testimony were plain: Dr. Stewart would "not be permitted to testify using the entire system as the royalty base." Id. at 15:23-16:1. This court further cautioned that the admissibility of Dr. Stewart's testimony hinged on his "factor[ing] out that [Cornell is], of course, seeking only compensation for the value of the claimed invention." Id. at 16:21-23.

Despite these admonitions, Cornell proffered a royalty base that incorporated much more than the claimed invention without providing any additional evidence demonstrating entitlement to the entire market value of any Hewlett-Packard product. In particular, Dr. Stewart testified that Cornell deserved royalties on a base of the more than \$23 billion in sales Hewlett-Packard would have made if it had sold all of the alleged infringing processors as CPU bricks. This hypothetical royalty base amount derives from a calculation that, might, with a degree of oversimplification, be described as multiplication of the catalog list price for Hewlett-Packard's CPU bricks

incorporating the assorted infringing processors by the number of infringing processors sold. The actual math is not at issue, as both parties agree on \$23 billion as the appropriate royalty base based on CPU brick sales. The important point is not the way that Cornell derived this royalty base, but that it exceeded again this court's direction and proceeded to attempt to show economic entitlement to damages based on technology beyond the scope of the claimed invention. The entire market value rule indeed permits damages on technology beyond the scope of the claimed invention, but only upon proof that damages on the unpatented components or technology is necessary to fully compensate for infringement of the patented invention. Thus, this court faults Cornell for using the CPU brick as the royalty base without credible and economic proof that damages on the unpatented portions of this technology was necessary to compensate for the infringement. Moreover, this court finds fault in the origins of this royalty base figure. The \$23 billion amount does not come from adding up invoice amounts, nor from actual CPU brick sales to Hewlett-Packard's customers. Those customers by and large purchased complete server and workstation systems, not CPU bricks. Rather, the \$23 billion base simply reveals the revenues Hewlett-Packard would have obtained if it had sold each of the infringing processors in conjunction with a CPU brick.

Notably, Cornell chose this hypothetical royalty base in favor of another alternative more clearly relevant to the value of the patented invention—the revenue Hewlett-Packard would have earned had it sold each infringing processor as just that, a processor, without any additional non-infringing components. Instead of linking its base amount to the processors (of which the infringing IRB is an important component), Cornell simply stepped one rung down the Hewlett-Packard revenue ladder from servers and workstations to the next most expensive processor-incorporating product without offering any evidence to show a connection between consumer demand for that product and the patented invention. Accordingly, Hewlett-Packard now requests that this court enforce its ruling at trial that Cornell is ineligible to collect damages under the entire market value rule and reduce the royalty base to account only for the value of the processors incorporating the patented technology. Based on a thorough review of the record, this court grants Hewlett-Packard's motion.

II.

A jury's damages award "must be upheld unless the amount is grossly excessive or monstrous, clearly not supported by the evidence, or based only on speculation or guesswork." Monsanto Co. v. Ralph, 382 F.3d 1374, 1383 (Fed. Cir. 2004) (quoting Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1580 (Fed. Cir. 1992)). JMOL is not an issue unique to patent law, and thus Second Circuit law governs this court's analysis. See Agrizap, Inc. v. Woodstream Corp., 520 F.3d 1337, 1341 (Fed. Cir. 2008). Entry of JMOL is appropriate only where "a reasonable jury would not have a legally sufficient evidentiary basis to find for the [non-moving] party on that issue." Fed. R. Civ. P. 50(a)(1). Although this court is prohibited from assessing the credibility of witnesses or weighing the evidence in a case, JMOL is appropriate where "there can be but one conclusion as to the verdict that reasonable [persons] could have reached." Nadel v. Isaksson, 321 F.3d 266, 272 (2d Cir. 2003)(internal quotation omitted).

Remittitur "is the process by which a court compels a plaintiff to choose between reduction of an excessive verdict and a new trial." Earl v. Bouchard Transp. Co., Inc., 917 F.2d 1320, 1328 (2d Cir. 1990) (quoting Shu-Tao Lin v. McDonnell Douglas Corp., 742 F.2d 45, 49 (2d Cir.1984)). "A district court's duty to remit excessive damages is a procedural issue, not unique to patent law." Imonex Servs., Inc. v. W.H. Munzprufer Dietmar Trenner GMBH, 408 F.3d 1374, 1380 (Fed. Cir. 2005) "In considering a motion to amend the judgment, or in the alternative to grant a new trial on the amount of damages, a trial court must review the record to determine whether the jury's verdict contravenes the 'clear or great weight of the evidence.'" Oiness v. Walgreen Co., 88 F.3d 1025, 1028 (Fed. Cir. 1996) (quoting Unisplay, S.A. v. Am. Elec. Sign Co., 69 F.3d 512, 517 (Fed. Cir. 1995)). Under Second Circuit law, the decision to grant remittitur is ultimately within the trial court's discretion. See Earl, 917 F.2d at 1330; see also Oiness, 88 F.3d at 1029.

In a suit for patent infringement, a prevailing plaintiff deserves damages "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284 (2006). Calculation of a reasonable royalty, as Cornell seeks here, requires determination of two separate quantities—a royalty base, or the revenue pool implicated by the infringement, and a royalty rate, the percentage of that pool "adequate to compensate" the plaintiff for that infringement. These quantities, though related, are distinct. An over-inclusive royalty base including revenues from the sale of non-infringing components

is not permissible simply because the royalty rate is adjustable. See Rite-Hite Corp. v. Kelly Co., 56 F.3d 1538, 1549 n.9 (Fed. Cir. 1995) (“This issue of royalty base is not to be confused with the relevance of anticipated collateral sales to the determination of a reasonable royalty rate.”).

“The methodology of assessing and computing damages under 35 U.S.C. § 284 is within the sound discretion of the district court.” TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 898 (Fed. Cir. 1986). Under certain circumstances, a trial court may exercise its discretion to apply the “entire market value rule” in calculating the reasonable royalty base. See King Instruments Corp. v. Perego, 65 F.3d 941, 951 n.4 (Fed. Cir. 1995) (“courts have allowed recovery of lost profits or a reasonable royalty based not only on the profits from the patented part, but also on non-patented parts”); Rite-Hite, 56 F.3d at 1550. When applied, this rule “permits recovery of damages based on the value of the entire apparatus containing several features, where the patent related feature is the basis for customer demand.” State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989). That is to say, with proper proof, a plaintiff may invoke the entire market value rule to include within the royalty base both infringing and non-infringing elements. Id. For example, in this case, application of entire market value rule might enable Cornell to obtain royalties not only on the claimed features of the IRB but also on sales of processors which includes features beyond the scope of the claimed invention. Cornell, of course, sought to expand the entire market value rule to cover CPU bricks – far beyond the scope of the claimed invention and without proof of the necessity of that expansion to adequately compensate for the infringement.

The entire market value rule in the context of royalties requires adequate proof of three conditions: (1) the infringing components must be the basis for customer demand for the entire machine including the parts beyond the claimed invention, Fonar Corp. v. General Electric Co., 107 F.3d 1543, 1552 (Fed. Cir. 1997); State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989); (2) the individual infringing and non-infringing components must be sold together so that they constitute a functional unit or are parts of a complete machine or single assembly of parts, Paper Converting Machine Co. v. Magna-Graphics Corp., 745 F.2d 11, 23 (Fed. Cir. 1984); and (3) the individual infringing and non-infringing components must be analogous to a single functioning unit, Kalman v. Berlyn Corp., 914 F.2d 1473, 1485, 16 USPQ2d 1093, 1102 (Fed. Cir. 1992). It is not enough that the infringing and non-infringing parts are sold together for mere business advantage. See Rite-Hite, 56 F.3d at 1549-

50. Notably, these requirements are additive, not alternative ways to demonstrate eligibility for application of the entire market value rule. See Id. at 1549-50.

III.

During the presentation of its damages case, Cornell did not heed this court's warning that any royalty base proffer must account for the fact that the '115 patent is a component of a component of Hewlett-Packard's server and workstation products. Instead, Cornell asked the jury to award damages on a royalty base including not only the revenues Hewlett-Packard would have earned had it sold the infringing processors alone, but on the revenues Hewlett-Packard would have earned had it sold the processors in conjunction with CPU bricks. Cornell sought damages on this inflated base without offering additional market evidence that the claimed invention formed the basis for demand for the CPU bricks, or even the existence of a market for CPU bricks. Accordingly, no reasonable jury could have relied on this royalty base in determining Cornell's damages award.

A.

Cornell's hypothetical-CPU-brick-revenues-as-royalty-base argument is simply another iteration of its entire-server-revenues-as-royalty-base argument that this court excluded after a detailed Daubert investigation. Cornell still sought application of the entire market value rule without adequate economic proof, albeit to a somewhat smaller system. Cornell breezed by the unit closest to the claimed technology—the processors—as a starting point for the royalty base, choosing instead the CPU bricks that are just one rung down the price ladder from the excluded servers and workstations. Cornell made this choice even though Dr. Stewart himself admitted that “the right way to start the intellectual exercise is to consider the smallest possible measure of sales or any measure for a royalty base, and conceptionally [sic] that would be the processor itself.” Trial Tr. vol. 5, 32:12-15. Thus, because Cornell elected to angle for a royalty base encompassing much more than the market most aligned with the claimed invention, it had to satisfy the requirements for application of the entire market value to the CPU bricks in order to prevail. See State Indus., 883 F.2d at 1580.

This decision to use the hypothetical CPU brick revenues as a royalty base fatally undermined Cornell's damages case. By Cornell's own admission, any market for Hewlett-Packard's CPU bricks was imaginary. As counsel for Cornell put it, “One of the problems we face here, your Honor, is if we move outside of the server workstation market, we don't have one.” Trial Tr. vol. 4, 274:7-11, May 22, 2008. Indeed, the \$23 billion royalty

base calculation adopted by Cornell was not premised on any market transactions, but on a calculation of what Hewlett-Packard would have earned if it had sold the infringing processors in conjunction with CPU bricks rather than servers or workstations. Trial Tr. vol. 5, 63:10-14 (“even though we don't have market transactions, in a sense we've got prices, and using those prices for the CPU [brick], Mr. Wallace tabulated the royalty base based on the CPUs to be \$23 billion, approximately, about two-thirds of the \$36 billion system sales.”). Without any real world transactions, or even any discernable market for CPU bricks, less intrepid counsel would have wisely abandoned a royalty base claim encompassing a product with significant non-infringing components. The logical and readily available alternative was the smallest salable infringing unit with close relation to the claimed invention – namely the processor itself. Cornell nevertheless stuck to its guns, aiming for the highest royalty base still available after the court’s exclusion order.

Indeed, on more than one occasion and in contravention of this court’s order, Dr. Stewart continued to advise the jury that, in his opinion, server and workstation revenues were the appropriate royalty base. See, e.g., Id. at 64:13-14, 64:20-22. He offered the hypothetical CPU brick revenues as the “minimum royalty base” due to Cornell. Id. at 64:20-25 (“Notwithstanding my view that the appropriate royalty base would be the revenue from sales of servers and workstations, Cornell is seeking a royalty base on the royalty base of CPU based on a tabulation and calculation of CPU revenue. I characterize that as a minimum appropriate royalty base for the reasons that I talked about earlier.”). Dr. Stewart’s decision to cling to his excluded opinion is telling. Rather than present a damages case accounting for this court’s order, Dr. Stewart and Cornell relied on the same evidence and reasoning that proved insufficient to support application of the entire market value rule in the server and workstation context only slightly revising those contentions to show entitlement to the entire market value of the CPU bricks.

Consistent with its admission that there was never a market for Hewlett-Packard’s CPU bricks, Cornell did not offer a single demand curve or any market evidence indicating that Cornell's invention drove demand for bricks. The absence of such evidence is unavoidable when hypothetical revenues unrelated to actual product sales form the foundation of a royalty base proffer. Reliance on hypothetical sales or estimated revenues is entirely permissible in connection with a reasonable royalty analysis. “The determination of a damage award is not an exact science, and the amount need not be proven with unerring precision. Del Mar Avionics, Inc. v. Quinton Instrument Co., 836 F.2d 1320, 1327 (Fed. Cir. 1987) (internal quotations and citations omitted). Such manufactured revenues cannot,

however, sustain expansion of the entire market value rule beyond some credible economic indicators. The entire point of that rule is to allow plaintiffs the advantage of collecting royalties on a system that encompasses more than the claimed invention when defendant's real world earnings derive from real world system sales generated by demand for the claimed invention.

Dr. Stewart did not provide any real world support for Cornell's royalty base claim. Indeed, he acknowledged that "there are a large number of factors other than [the '115 patent's] out-of-order execution that lead[] to the performance of HP processors." Trial Tr. vol. 5, 89:23-90:2. He admitted, for example, that the Hewlett-Packard brand name, its reputation for reliability, and its service were important (and in some cases very important) in affecting sales. Id. at 105:16-106:3. Despite these admissions as to the origin of consumer demand for Hewlett-Packard's CPU bricks and servers and workstations, Cornell did not present the court with any evidence linking demand for the claimed invention to the CPU bricks. In sum, Cornell did not provide any more evidence for its consumer demand argument than the type of evidence this court found insufficient during Dr. Stewart's Daubert hearing.

For example, Cornell relied on the same internal Hewlett-Packard documents predicting that the type of out-of-order execution achieved in the '115 patent "would be a competitive requirement." Opp. Br. at 14. Cornell did not offer any customer surveys or other data to back these predictive claims. Moreover, Cornell's only economics-based argument, that customers "chose" Hewlett-Packard products incorporating the claimed invention was dismissed by this court. As the court explained:

A simplistic comparison of the accused products to Hewlett-Packard's ramp up of sales of a second system, the Itanium, or its ramp down of sales of the third system, the 7000 series, tells little about the market or demand for specific improvements provided by the patented invention. They happened at different times under different circumstances, there were market factors and [other factors] beyond the contemplation of the Court that affected all of those circumstances.

Id. at 15:3-11. Indeed, all of Cornell's proffered evidence of the superiority of the claimed invention compares the performance of different computer processors, not CPU bricks containing those processors. Nowhere does Cornell offer evidence that the claimed invention drove demand for Hewlett-Packard's CPU bricks. As Hewlett-Packard points out, it could have just as easily sold the accused processors in configurations other than CPU bricks. In fact, Hewlett-Packard did sell bricks with other processors and it sold more than 31,000 processors à la carte. Trial Tr. vol. 6, 33:13-17.

Thus, Cornell relies on the same evidence to show application of the entire market value rule to the hypothetical CPU brick revenues as it proffered when seeking to make the entire server subject to the entire market value rule. This court excluded the entire server for lack of credible and sufficient economic linkage and excludes the entire brick for the same reason. Simply put, Cornell's failure to connect consumer demand for Hewlett-Packard machine "performance" to the claimed invention, or to present a single demand curve (or any other economic evidence) showing that the Dr. Torng's invention drove demand for Hewlett-Packard's products undermined any argument for applicability of the entire market value rule. Accordingly, this record contains no reasonable basis for finding that Cornell is entitled to the entire market value of Hewlett-Packard's CPU bricks or servers or workstations as a reasonable royalty base.

B.

Cornell attempts to escape this outcome by arguing that any error in the choice of royalty base is irrelevant because the jury necessarily took the size and composition of the royalty base into account in calculating the final damages award. This argument rings hollow as a threshold matter. The court is left to wonder why, if the royalty base mattered so little, Cornell exerted so much energy in pushing for the largest possible base before, during, and even after trial. Moreover, Cornell's assertion is legally incorrect. As the Federal Circuit explained in Rite-Hite, whether or not a plaintiff is entitled to include the entire market value of a system incorporating infringing and non-infringing components in the royalty base is separate from the analysis of the effect of conveyed or collateral sales on the royalty rate. 56 F.3d at 1549 n.9. That question, in turn is one of the appropriate "methodology of assessing and computing damages under 35 U.S.C. § 284" and thus falls squarely within "the sound discretion of the district court." TWM Mfg., 789 F.2d at 898.

C.

Similarly unavailing is Cornell's contention that it could not properly have relied on processor sales as a royalty base because the hypothetical processor revenue base was an estimate, rather than a firm calculation. Applying Cornell's logic, the law should require this court to apply the entire market value rule and include server and workstation revenues in the royalty base because those revenues are the most accurate reflection of Hewlett-Packard's earnings, since they reflect what Hewlett-Packard did in fact earn. To the contrary, the damages equation is not based on Hewlett-Packard's earnings, but instead on the compensation due to Cornell for infringement. Because the entire server did not infringe, Cornell needs to provide some reason to extend its damages to features and components not encompassed within the claimed invention. The second most accurate base amount, in Cornell's view, is the hypothetical CPU brick revenue, because even though that amount is derived from records rather than real world earnings in the marketplace, Hewlett-Packard included CPU brick pricing in its catalogs. Thus, Cornell urges this court to accept the brick price – not because it reflects the value of the claimed invention but because it requires no estimations or hypothetical calculations.

By this logic, the hypothetical processor revenue amount is flawed because Hewlett-Packard only had actual pricing information for three out of eight infringing processor models. The remaining processor prices were determined using a combination of economic and statistical techniques that Cornell does not challenge except to say that they are estimates rather than actual prices. Nonetheless the Federal Circuit permits estimates in the damages context. Del Mar Avionics, 836 F.2d at 1327. And it is the duty of this court to ensure that the estimates are tied to demand for the claimed invention and proper economic methodologies, not just numbers in an accounting format. See TWM Mfg., 789 F.2d at 898. Accordingly, because this court finds that Hewlett-Packard's hypothetical processor revenue calculation represents the only reliable evidence in this record of adequate compensation for infringement of the claimed invention. This court grants Hewlett-Packard's motion for judgment as a matter of law.

IV.

Dr. Stewart's failure to comply with this court's exclusion order provides alternative grounds for granting Hewlett-Packard's motion. As explained above, despite this court's admonitions, Dr. Stewart offered his opinion that Hewlett-Packard's server and workstation revenues were the appropriate royalty base in this case. Moreover, Dr. Stewart did not comply with the court's order that the proffered royalty base take into account the fact that "the claimed invention is not the entire system but only a component of a component of that system." Tr. Tran. May 23, 2008 at 16. Because Dr. Stewart ignored the boundaries this court set for his testimony both pre-trial and during trial and did not limit his royalty base opinion to "seek[] only compensation for the value of the claimed invention," Trial Tr. vol. 5, 16:21-23, this court excludes his testimony.

V.

Hewlett-Packard requests a reduction in damages in light of an alleged implied license to the '115 patent from both Intel and IBM. Although the issue of implied license was sent to the jury, as this court ruled during trial, the jury's verdict on these issues was merely advisory.

The existence of an implied license is a question of law reserved for the court. See Met-Coil Sys. Corp. v. Korner Unlimited, Inc., 803 F.2d 684, 687 (Fed. Cir. 1986); Wang Labs., Inc. v. Mitsubishi Elecs. Am., Inc., 103 F.3d 1571 (Fed. Cir. 1997). The implied license defense is typically presented "when a patentee or its licensee sells an article and the question is whether the sale carries with it a license to engage in conduct that would infringe the patent owner's rights." Jacobs v. Nintendo of Am., Inc., 370 F.3d 1097, 1100 (Fed. Cir. 2004). An implied license defense incorporates two elements: (1) the article must have no reasonable non-infringing use; and (2) the circumstances of the sale must plainly indicate that the grant of a license should be inferred. Met-Coil, 803 F.2d at 686. Notably, the implied license doctrine does not include a U.S. sale requirement. Id.

A.

Cornell expressly granted Intel a license under the '115 patent. Cornell did not restrict Intel's right to make the accused processors and sell them to Hewlett-Packard. Rather the license granted to Intel the unrestricted right to "make, have made, use, import, offer to sell and sell, or otherwise distribute, directly or indirectly, any products covered by Licensed Patents." In other words, the license authorized Intel to sell its processors without placing any restrictions on sales to third parties.

In Zenith Electronics Corp. v. PDI Communications Systems, 522 F.3d 1348, 1360 (Fed. Cir. 2008), the defendant purchased accused infringing products from manufacturers expressly licensed to sell products for uses that would infringe the Zenith patent. Id. at 1361. Because of these licenses between Zenith and the manufacturers, the Federal Circuit found the question of non-infringing uses to be “irrelevant in the context of this case.” Id. at 1360. Indeed, Zenith could not sue the manufacturers’ customers for infringement because an implied license “is derived from the express licenses between Zenith and those manufacturers.” Id. at 1361 (emphasis in original).

Here, the record does not show that Cornell intended to limit its grant of patent rights to Intel. As in Zenith, Hewlett-Packard derives its implied licenses from express licenses from Cornell, the patentee, to Hewlett-Packard’s supplier, Intel. Because the circumstances of the sale made clear that Intel was making the processors, this court concludes that Intel had a right to make those processors and sell them to its customers and that Hewlett-Packard, one of those customers, had an implied license to use and sell the Intel-made processors.

B.

In contrast, IBM had no rights under the ’115 patent. In relevant part, the 1981 research contract between IBM and Cornell provided: “The period of performance of this agreement shall be from July 1, 1981 through June 30, 1982.” Because Dr. Torng conceived of the invention after the expiration of the 1981 research contract, and the parties never extended the terms of the research contract, IBM had no rights under the ’115 patent. Although Hewlett-Packard attempted to convince the jury that a 1984 research contract between Cornell and IBM was a continuation of the 1981 research contract, testimony from Dr. Ling, an IBM witness, that the 1981 and 1984 contracts were unrelated stands unrefuted. For this reason, this court rejects Hewlett-Packard’s implied license defense with respect to the IBM-made processors.

VI.

Hewlett-Packard requests relief from the jury’s erroneous royalty base verdict in the form of JMOL that the hypothetical processor revenue amount is the proper royalty base, or, in the alternative remittitur or a new trial on damages. Hewlett-Packard further asserts that the damages award should be reduced in light of its implied license to

the '115 patent from both Intel and IBM. This court finds that Hewlett-Packard is entitled to JMOL that the hypothetical processor revenue of \$6,686,785,273 is the appropriate royalty base, and thus that Cornell is entitled to damages of \$53,494,282. In the alternative, should JMOL be disturbed on appeal, this court would grant Hewlett-Packard's motion for remittitur, submitting the option of a damages award of \$53,494,282 or a new trial on damages to Cornell.

A.

An award of damages by the jury "must be upheld unless the amount is grossly excessive or monstrous, clearly not supported by the evidence, or based only on speculation or guesswork." Monsanto, 382 F.3d at 1383 (quoting Brooktree, 977 F.2d at 1580). For the reasons stated above, this record contains insufficient evidence to establish the required nexus between the patented aspect of the infringing processors and the entire CPU brick. Accordingly, the jury's application of the entire market value rule to the CPU brick was unsupported as a matter of law. See Lucent Technologies Inc. v. Gateway, Inc., 509 F. Supp.2d 912, 937-938 (S.D. Cal. 2007). Therefore, this court grants Hewlett-Packard's motion for JMOL that the hypothetical processor revenue of \$8,061,545,086, not the hypothetical CPU brick revenue, is the appropriate royalty base. However, in light of the implied license with Intel, this court reduces the royalty base by \$1,374,759,813 to account for the processor revenue from Intel-made processors. Thus, as a matter of law, Cornell is entitled to damages of \$53,494,282. This damages amount derives from application of the jury's unchallenged determination of a royalty rate of 0.8 percent to the legally correct royalty base.

B.

In the alternative, this court would grant Hewlett-Packard's motion for remittitur. Even if JMOL were not appropriate in this case, remittitur would be. Remittitur is appropriate in two distinct kinds of cases:

(1) where the court can identify an error that caused the jury to include in the verdict a quantifiable amount that should be stricken, see, e.g., Joiner Systems, Inc. v. AVM Corp., 517 F.2d 45, 49 (3d Cir.1975); and (2) more generally, where the award is "intrinsically excessive" in the sense of being greater than the amount a reasonable jury could have awarded, although the surplus cannot be ascribed to a particular, quantifiable error, see, e.g., Lanfranconi v. Tidewater Oil Co., 376 F.2d 91, 96-97 (2d Cir.), cert. denied, 389 U.S. 951, 88 S.Ct. 334, 19 L.Ed.2d 361 (1967).

Shu-Tao Lin, 742 F.2d at 49. This case presents an example of the former. The jury erroneously included the \$23 billion hypothetical CPU brick revenue base in its damages calculation, even though Cornell did not submit

sufficient evidence to support application of the entire market value rule. Because the \$8 billion hypothetical processor revenue royalty base is the only base presented to the jury that was supported by substantial evidence, absent its JMOL grant, this court would grant remittitur of \$53,494,282—that is, the product of the jury’s uncontroverted royalty rate of 0.8 percent and the correct royalty base \$6,686,785,273 (the \$8,061,545,086 hypothetical royalty base less \$1,374,759,813, the Intel-made processor revenue).

C.

As an alternative to its substantive attacks on Hewlett-Packard’s motion, Cornell asserts that Hewlett-Packard is not entitled to a reduction in the jury verdict because of the “maximum recovery rule.” Under this rule, any remittitur amount must be “based on the highest amount of damages that the jury could properly have awarded based on the relevant evidence.” Unisplay, S.A. v. Am. Elec. Sign Co., Inc., 69 F.3d 512, 519 (Fed. Cir. 1995). According to Cornell, application of the maximum recovery rule to this case would result in a larger award than the jury originally granted. In particular, Cornell asserts that because the jury heard evidence supporting a 2.5 percent royalty rate, that rate, not the 0.8 percent rate actually used by the jury, should be applied to the \$6,686,785,273 hypothetical processor revenue base. Thus, Cornell concludes that the appropriate remittitur amount is \$201,538,627, some \$17.5 million more than the jury awarded.

Although superficially appealing, Cornell’s maximum recovery rule argument ignores the nature of the jury’s verdict and the doctrine behind the maximum recovery rule. One of the main objectives of the maximum recovery rule is to “minimize the extent of judicial interference with a matter that is otherwise within the jury’s domain.” Earl v. Bouchard Transp. Co., Inc., 917 F.2d 1320, 1328 (2d Cir. 1990); see also Akermanis v. Sea-Land Serv., Inc., 688 F.2d 898, 903 (2d Cir.1982) (“Remittitur is a limited exception to the sanctity of jury fact-finding.”). Accordingly, where, as here, the jury has articulated what it identified as the appropriate royalty rate, see Verdict Form, D.I. 1029, May 30, 2008 at 6, this court has no reason to disturb that rate simply because it found error in the separately articulated royalty base determination. Because the jury unequivocally communicated its royalty rate decision—an unchallenged decision supported by substantial evidence—upholding the jury’s royalty rate determination is the option “most faithful to the jury’s verdict.” Earl, 917 F.2d at 1328 (noting that the Second Circuit relies on the maximum recovery rule in part because it is the “least intrusive” remittitur option).

None of the maximum recovery rule cases cited by Cornell address the situation where the jury has set forth both the royalty rate and royalty base. Therefore, this court need not adjust the unchallenged royalty rate component of the verdict. Indeed, to do so would undermine the spirit of the maximum recovery rule.

Accordingly, this court grants Hewlett-Packard's motion for JMOL and awards Cornell damages of \$53,494,282. In the alternative, this court grants Hewlett-Packard's motion for remittitur and offers Cornell a remittitur amount of \$53,494,282.

IT IS SO ORDERED.

March 30, 2009
Washington, District of Columbia

/s/ Randall R. Rader
Randall R. Rader
Circuit Judge